"DROP YOUR WATER USE" PLANT TAGGING PROGRAM -TUCSON, ARIZONA

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ABSTRACT: Tucson is Educating Consumers to "Drop Your Water Use." The Tucson office of the Arizona Department of Water Resources (ADWR) has developed a new nursery program, Drop Your Water Use, to educate retail nursery customers on how to plan and maintain a healthy and water efficient landscape. The program is a voluntary collaboration between ADWR and local nurseries that uses a simple water drop system to identify plants with similar water requirements. All of the labeled plants are Xeriscape plants currently on the Tucson Low Water Use/ Drought Tolerant plant list. Plants are labeled one through three, distinguished with corresponding water drops and numbers. A "number one" indicates very low water use-mostly native plants, two is low water use and three is moderate water use. By choosing plants with the same number a gardener can more successfully group plants by water needs. Although the plants are all low-water-using, the frequency that they need to be irrigated varies from approximately once a week to once a month after the plants are established (in about 2-3 years). ADWR hopes that consumers will use separate valves on their irrigation system to water each zone, enabling them to manage their irrigation water use more efficiently. To date, fourteen Tucson retail nurseries and all six Tucson area Home Depot's have signed up for the program. ADWR is working with other nurseries to encourage their participaion. Wholesale nurseries in Phoenix and Tucson are also participating in the program by adding water drop symbols to their labels on plants to be sold in Tucson. Retail nurseries that participate receive free posters, water drop stickers for their signage and handouts explaining the program and watering guidelines for their customers. In addition all participating nurseries are listed on the ADWR website and are promoted in at community events.
KEY TERMS: Water Conservation, Nursery Program, Xeriscape, Irrigation Efficiency

INTRODUCTION

Since the early 1980's the Tucson community has sought to reduce its dependence on a limited groundwater supply by encouraging water conservation. Located in the Sonoran desert in the Southwestern U.S. the Tucson basin receives an average rainfall of 12 inches per year, approximately half in winter and half in the summer "monsoon season" which runs from July to September. With summer temperatures regularly over 100° F the need to reduce outdoor water use for landscape irrigation continues to be a focus of conservation efforts in the region.

Prior to the late 70's, Tucson residential and commercial landscapes consisted of "exotic" high water use plants resembling areas of the U.S with more temperate climates. Tucson median and right-of-way landscaping consisted of predominantly high water using plants, grass and palm trees. In 1987, the Arizona Department of Water Resources (ADWR) requirements for landscaping in public rights-of-way became effective. The regulations prevent the use of municipal groundwater for irrigating any newly landscaped areas within the public rights-of-way, unless the plants are listed on the "Official Low Water Use Plant List" for the Tucson AMA. The plant list, containing approximately 450 low-water-use plants appropriate for the Sonoran desert climate has been adopted as the official regulatory list by the City of Tucson, Marana, Town of Oro Valley and Pima County. In addition, local jurisdictions have adopted landscape ordinances to prevent the use of high-water-use plants on commercial properties and homeowners have embraced the use of low-water-using plants in their yards. It is now rare to see grass in front yards or along roadways in Tucson.

For close to twenty-five years the ADWR, local nonprofit organizations and water providers have successfully worked together to instill a conservation ethic in the Tucson region. Outdoor conservation programs continue to promote Xeriscape landscaping principles to reduce turf areas, use low-water-use plants, water harvesting, mulch, proper maintenance and efficient irrigation practices, and to zone plants by water use.

Over the years, the community has embraced the new plant palate of low-water-use plants and drip irrigation has become the norm. However, after years of educating the public of the need to irrigate efficiently and to group plants by water-use, it became apparent that effective zoning was easier said than done. Even among low-water-use plants there

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were differences in water use requirements and irrigation frequency. Homeowners and landscape professionals needed a simple way to identify plants in order to group them in water use zones.

The "Drop Your Water Use" plant-tagging program was developed to synthesize a very complicated process into a simple method for identifying low-water-use plants that would have similar irrigation frequency, therefore allowing them to be grouped into zones more effectively and irrigated with separate valves. The basis for this program is the aforementioned Tucson AMA Drought Tolerant/Low Water Use Plant List.

The Tucson AMA has had a long-standing plant list advisory committee consisting of local plant experts that evaluate plants for addition or deletion to the list. In 2003, the advisory group convened for the arduous task of evaluating the plant list and reassessing the plant water-use numbers that have been a major component of the list since its inception in 1983.

Concurrently, with the assistance of the Arizona Nursery Association, a meeting was held with wholesale nurseries to determine interest and inclination to incorporate "Drop Your Water Use" icons on their labels for plants destined for retail nurseries in Tucson. The concept was well received and several major wholesale nurseries made a commitment to incorporate the icons on their labels. It is important to note the necessity of incorporating the icon on to the current label via the plant-labeling database program used by individual nurseries rather than as a separate label. This will ensure that the labeling information will continue to be placed on the containers without additional work by nursery staff. Staff would otherwise have to look up the water use number for each plant and place an additional label on the plant pot. This extra effort would add a level of complexity that would likely lead to the demise of the tagging program.

The next step was to meet with a representative group of retail nurseries in Tucson to determine if they thought the program had merit, their willingness to participate and what marketing and customer information they felt should be developed to promote the program. With the hope that the program could expand to other metropolitan areas throughout Arizona an effort was made to develop marketing materials that incorporated color schemes and graphics from programs underway in Phoenix, Tucson and other parts of the state with similar climatic conditions. Based on input from the nurseries draft graphics were developed.

Wholesale Labels

Plants are labeled one through three, distinguished with corresponding water drops and numbers. A "number one"  indicates **very low** water use-mostly native Sonoran and Chihuahuan desert plants, two  is **low** water use and three  is **moderate** water use. By choosing plants with the same number a gardener can more successfully select and group plants by water use requirements. Although the plants are all low-water-using, the frequency that they need to be irrigated under normal climatic conditions in Tucson varies from approximately once a week to once a month after the plants are established (in about 2-3 years). ADWR hopes that consumers will use separate valves on their irrigation system to water each zone, enabling them to manage their irrigation water use more efficiently.

Three major wholesale nurseries that supply the majority of the low-water-use plants throughout southern Arizona have agreed to incorporate the drops on their labels. Two have completed the process and the third was prompted to purchase new labeling equipment and redesign their labels to accommodate the drops as well as other information such as the barcode and botanical and common names of the plants. They expect to have this redesign complete by fall of 2005. Several additional nurseries have expressed an interest in participating when they purchase labeling equipment or plan to incorporate the drops into pre-printed plant tags as they run out and reorder.

Retail Nursery Marketing Materials

There are currently 20 nurseries participating in the program, all with varying nursery layouts, clientele and staffing levels. As is often the case in retail sales, there is a fair amount of staff turnover and differing levels of knowledge about the cultural requirements of the plants they are selling. The attempt to develop marketing materials that would work for all of the various situations has not been without some failures. For example, "end cap" signage for plant rows in nurseries based on water use were developed at the request of some nurseries only to realize that nurseries are rarely, if ever, organized by water use. Some organize plants by type (e.g. groundcovers, shrubs and trees), others alphabetically by botanical name, or often plants that are in bloom are located in the front of the nursery to encourage impulse sales regardless of water use.

Another marketing component requested by nurseries that has yet to be fully embraced is the labeling of high-water-use plants. An icon was developed for that purpose consisting of a bucket of water  rather than a drop. This icon is included on a poster developed for retail nurseries but the label itself has not been utilized for fear that customers would not purchase annuals and perennials or other exotics, which are often a significant source of income for nurseries.

Originally, the program intent was to label only the low-water-use plants since ADWR has a corresponding plant list and is charged with both encouraging and in some instances regulating water use reductions. It is clearly out of its purview to develop a list of high-water-use plants. Therefore, the task of developing a hierarchal list for this purpose would fall to nurseries or plant experts, which is not out of the question sometime in the future. However, since high-water-use plants will continue to be available, an increased effort will be required on the part of ADWR and others to educate nursery staff and their customers on the differences in cultural requirements of these plants e.g. soil with higher organic content, fertilization and frequent irrigation. The primary objective of which is to make sure that when these plants are used, they too are grouped into zones by irrigation frequency and not inter-planted with low-water-use plants that are acclimated to our desert soils and conditions. Otherwise, plants will die from over or under irrigation.

Additional materials have been developed including a laminated poster describing each drop and its corresponding irrigation frequency. Blue drops with the numbers were printed on fade resistant horticultural quality labels to allow nurseries to use them on their existing signage. The visibility of the program varies widely between nurseries. Some have used the labels and posters extensively. Others have used the computer graphics directly by incorporating them into their own signage. Still others have distributed customer handouts only and have done very little labeling, mostly due to lack of staff.

Consumer Education

At the request of retail nurseries ADWR developed information for their customers that can be easily reproduced on a copy machine and provides them with copies of the plant list. Several handouts were developed - one describes the "Drop Your Water Use" plant tagging program and its water conservation benefits; another entitled "How Much and How Often to Water" describes root zones, soils and microclimate differences and how that affects irrigation frequency and quantity. These materials were developed and reviewed by the participating retail nurseries prior to printing and distributing them. To date, 5410 program descriptions, 6635watering guidelines and 1626 plant lists have been distributed.

CONCLUSION

In order for a program such as this to succeed and continue, it must be perceived as a benefit to the participating nurseries and their customers. The fact that nurseries are expending their own money and staff resources to label the plants at the wholesale and retail levels bodes well for its continued success. The total cost to establish and promote the program has been approximately $5,000 not including ADWR staff time and the in-house printing of educational and marketing materials. In addition, local water providers and Tucson Home Magazine have promoted the program at no cost to ADWR. Participating retail nurseries have been pleased with the program overall, and have indicated the program materials and labeling have resulted in an unexpected benefit: a "silent sales person." Retail nurseries, especially independent nurseries, usually have a limited number of staff persons. Therefore, rather than have customers wait to speak with a lone staff person, they can quickly describe the labeling program and send customers into the nursery on their own to choose plants.

The next step will be to follow-up with participating nurseries to determine how to make the program more visible, and to look for additional promotional opportunities and partnerships, to advertise the program, and potentially do some staff training. There may also be opportunities to educate local landscape professionals and their crews on the program so they can use the labeling system as a basis for design and installation. In turn sales could increase by educating their clients on the water saving benefits of an efficient irrigation system as well as the benefit to their landscape in terms of plant health.